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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,534	09/25/2003	Jinru Bian	03010US	5465

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EXAMINER

MARCHESCHI, MICHAEL A

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/670,534	Applicant(s) BIAN ET AL.	
	Examiner Michael A. Marcheschi	Art Unit 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/2/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 11 and 13-19 is/are pending in the application.
- 4a) Of the above claim(s) 13-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Newly submitted claims 13-19 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Newly submitted claims are directed to an independent and distinct composition and method when compared to the composition originally elected invention (elected by original presentation). In addition, the independent method and composition of the new claims were originally properly restricted out of the application and thus said claims were canceled. The new composition claims can still be abrasive free and does not require a hydrazine derivative, thus it is an independent and distinct composition. The examiner previous reasons for restriction are incorporated herein by reference.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 13-19 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

In the following claims, CDO means carbon doped oxide (see section [0063] of the specification).

Claims 1-3 are directed to an invention not patentably distinct from claim 4 of commonly assigned publication number 2005/0031789 for the same reasons set forth in the previous office action which are incorporated herein by reference. Although the claims do not define the specific oxidizing agent and inhibitor one can look to the specification for the meaning of a terms

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and the specification defines oxidizers and inhibitors as meaning the claimed materials, i.e. oxidizer is hydrogen peroxide and the inhibitor is imidazole (claimed barrier removal agent-see claim 4). In addition, the ammonium salt of the reference is defined as a mixture of two materials one being tetramethylguanidine (i.e. claimed removal agent).

Claims 1-4 and 11 are rejected under 35 U.S.C. 103(a) as being obvious over Liu et al. (publication number 2005/0031789) for the same reasons set forth in the previous office action which are incorporated herein by reference.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being obvious over EP 1,229,093. Claim 4 is added to this rejection because this claim now defines an imidazole (previously canceled), thus applicants apparently reinstated this material as a possible derivative. In view of this, this rejection is based on applicants reinstatement and thus is not a new rejection but is necessitated by applicant response.

The reference teaches in the abstract and sections [0016]-[0039], a polishing composition having a pH within the claimed range which comprises hydrogen peroxide, an abrasive, an organic ammonium salt and imidazole. The amounts for the components are defined.

The reference clearly teaches a composition which contains all of the claimed components and although the reference does not literally define the amounts in terms of weight percent, it is the examiners position that when the reference amounts are converted to weight percent they will encompass the claimed range. Although the reference does not literally define the selectivity, this aspect is obvious because it is the examiners position the composition of the

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reference is expected to yield this property because the composition is the same (contains the same materials in the same amounts) and the same composition is expected to provide the same results absent evidence to the contrary. In addition, the reference teaches that tantalum nitride and CDO can be polished.

Claims 1-4 and 11 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No. 10/830,268 (publication number 20050236601) for the same reasons set forth in the previous office action which are incorporated herein by reference.

Claims 1-4 and 11 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of copending Application No. 10/670,587 (publication number 20050070211) in view of Liu et al. (789) for the same reasons set forth in the previous office action which are incorporated herein by reference.

Claims 1-4 and 11 are rejected under 35 U.S.C. 103(a) as being obvious over Wang et al. (2003/0170991) for the reasons previously defined. Although the primary reference does not literally states "imine derivatives, the claimed materials are obvious because table 3 of the reference teaches a composition that the additive is **guanidine nitrate**. One readings the reference as a whole would have appreciated that **guanidine nitrate** can be the additive used in the broad composition as broadly disclosed by the reference. With respect to the ammonium

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salt, the broad recitation of quaternary ammonium salt renders the claimed species obvious because the reference teaches in section [0029] that the stopping compound (quaternary ammonium salt) contains 4 or more carbon atoms as is defined by the formula set forth on lines 29-35 of section [0029]. This formula reads on the claimed formula. In view of this formula, it is the examiners position that one skilled in the art would have appreciated that the recitation of quaternary ammonium salts of the primary reference would encompass the claimed ammonium salts. Although the primary reference does not literally define the selectivity, this aspect is obvious because it is the examiners position the composition of the reference is expected to yield this property because the composition is the same (contains the same materials in the same amounts) and the same composition is expected to provide the same results absent evidence to the contrary.

Applicant's arguments filed 2/17/06 have been fully considered but they are not persuasive.

Applicants make a statement that the action inadvertently continues to reject claims 1-4 and 11 as obvious type double patenting over Liu et al. (publication number 2005/0031789) and since a terminal disclaimer has been filed, these are moot. To the contrary the examiner made 3 separate rejection over this art (1) an obvious double patenting rejection, (2) that claims 1-3 are directed to an invention not patentably distinct from claim 4 of commonly assigned publication number 2005/0031789 and (3) a 103(a) rejection over Liu et al. (publication number 2005/0031789). The examiner acknowledges the submission of a terminal disclaimer which is sufficient to overcome rejection (1) above, but this terminal disclaimer, alone, is **not** sufficient to

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overcome rejections (2) and (3) above. Applicants fail to provide the necessary showing, as defined in the previous office action, to overcome these additional rejections (rejections are not obvious double patenting).

With respect to the hydrazine derivative, the examiners acknowledges applicants declaration filed 2/17/06. In this declaration, applicants state that hydrazine derivatives do **not** include imidazole in view of the different structure (and thus has omitted this from the claims and section [0031] of the specification in the previous response). The examiner acknowledges this, but sections [0014], [0016] and [0021], which define the formula of the hydrazine derivative, state that the R groups can be a hydrocarbon group (section [0014]), said hydrocarbon group being a heterocyclyl group (section [0016]). Section [0021] states that the heterocyclyl group can be **imidazole**, thus when these sections are viewed together, they imply that the derivative is imidazole. Since imidazole is defined in the specification as a hydrazine derivative, it is the examiners position that any reference that uses this component can be applied.

Applicants cancellation of imidazole in section [0031] of the specification presents confusion (is inconsistent with the above sections, at least) because the other sections, as defined above clearly imply that imidazole is a hydrazine derivative. ***If imidazole is clearly not intended and incorrectly defined as being a hydrazine derivative, all of the references in the specification to imidazoles, as well as imidazole structures, should be excluded (i.e. see section [0021]).***

Finally, claim 4 as defined in the response dated 2/17/06 clearly defines an imidazole (i.e. this component is now present and it is assumed that it was reinstated by applicants). In view of the above, applicants declaration is contradictory to what is actually disclosed in the specification

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and claim 4. *Finally, to contradict applicants position, copending application 10/670,587 clearly states that imidazole is a hydrazine derivative.*

Applicants argue that EP 1,229,093 does not teach the claimed composition because the imidazole, as defined by this reference is not one of the claimed derivatives (hydrazine derivative) and submit a declaration to this effect. In response, in view of the inconsistency of the specification and claims defined above, it is the examiners position that imidazole can still be within the scope of the claims. In addition, claim 4 now clearly defines an imidazole.

Applicants argue that since claims 1-7 of copending Application No. 10/830,268 (publication number 20050236601) lack either a guanidine, hydrazine or their derivatives, this rejection is improper. This is not persuasive because this copending application clearly claims the use ammonium salt which is defined as a mixture of two materials one being tetramethylguanidine (i.e. claimed removal agent).

Applicants argue that since claim 1-8 of copending Application No. 10/670,587 (publication number 20050070211) lack an ammonium salt, this rejection is improper. This is not persuasive because this copending application uses 0.05-25% of a nitrogen containing compound and this is defined as **tetramethylgaunidine**. Tetramethylguanidine is used as applicants ammonium salt (see section [0050]), thus the same component is used.

Applicants argue that Wang et al. (2003/0170991) does not teach the claimed specific salt. The examiner disagrees because the broad recitation of quaternary ammonium salt renders the claimed species obvious because the reference teaches in section [0029] that the stopping compound (quaternary ammonium salt) contains 4 or more carbon atoms as is defined by the formula set forth on lines 29-35 of section [0029]. This formula reads on the claimed formula.

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In view of this formula, it is the examiners position that one skilled in the art would have appreciated that the recitation of quaternary ammonium salts of the primary reference would encompass the claimed ammonium salts. In addition, although a formula might infer specific ammonium salts, applicants must clearly show reasons why the reference materials do not fall within the scope of the formula as claimed. The declaration, as defined above, also states that it is applicant opinion that this reference does not define the specific salts. The declaration is not convincing because this is an opinion declaration and not supported by facts. Finally, applicants do not clearly defines the specific types of ammonium salts. Although a formula might infer these, applicants must clearly show reasons why the reference materials do not fall within the scope of the formula as claimed, said reasons not being based on applicants opinion.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

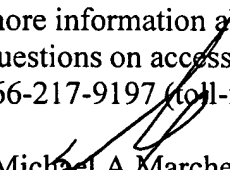
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

3/06
MM


Michael A. Marcheschi
Primary Examiner
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